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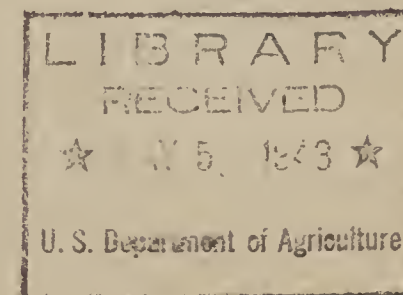
Materials Tested During 1942 in

Reserve

The Division of Truck Crop Insect Investi-
gations,, to Determine Their Insecticidal Value, with
Brief Notes on Results Obtained

In order to give brief and indicative information upon the results of experiments to determine the insecticidal value of various materials tested during 1942 by workers in the Division of Truck Crop Insect Investigations, the following report has been prepared. This report has been assembled primarily for the information and guidance of the workers of this Division or their associates, and is not to be used for publication. The results are shown in the code on the following page.

Division of Truck Crop Insect Investigations
U.S. Bureau of Entomology and Plant Quarantine
Agricultural Research Administration
U. S. Department of Agriculture



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2700

CODE

lt = Laboratory tests.
fc = Field cage tests.
fsp = Field tests: small plots.
flp = Field tests: large plots.

VP = Very promising.
WFT = Warrants further trial.
TNS = Tests not sufficient to justify evaluation.
NFT = Warrants no further trial.

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Material	Name of Insect Used in Tests	Results (by code)	Remarks
1. acetone semicarbazone	<u>Bruchus pisorum</u> <u>Heliothis armigera</u> <u>Scapteriscus acletus</u>	lt: NFT lt: TNS lt: WFT	Forest Grove, Oregon Columbus, Ohio Plant City, Fla.
2. acrylonitrile in freon	<u>Tarsonemus pallidus</u> <u>Tetranychus bimaculatus</u> <u>Ephestia elutella</u> <u>Lasioderma serricorne</u>	lt: NFT lt: NFT lt: WFT lt: NFT	Beltsville, Md. Beltsville, Md. Richmond, Va. Used as aerosol (Richmond, Va.)
3. allyl chloride	<u>Limoniuss canus</u> <u>L. californicus</u>	lt: TNS-fc: NFT fsp: NFT	Walla Walla, Wash. Walla Walla, Wash.
4. alpha, beta-dibromo-beta-nitro ethyl benzene (E-1181)	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
5. alpha, beta-dibromoethylbenzene	<u>Heliothis armigera</u>	lt: NFT	Columbus, Ohio
6. aluminum fluoride	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
7. ammonia aromatic spirits	<u>Protoparce sexta</u>	fc: NFT	Burned foliage (Quincy, Fla.)
8. ammonium fluoride	<u>Scapteriscus acletus</u>	lt: NFT	Plant City, Fla.
9. ammonium nitro ortho cresylate	<u>Bruchus pisorum</u>	lt: WFT	More effective than "guanadine" (115) but required concentration probably too high for field use. (Forest Grove, Oregon)
10. ammonium polysulfide	<u>Tarsonemus pallidus</u>	fsp: (greenhouse)	Superior to lime sulfur at 1-200 with Grasselli spreader (Beltsville, Md)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
11. apple pomace extract	<u>Heliothis armigera</u>	1t: NFT-fsp: TNS	In cryolite spray (Columbus, Ohio)
12. arsenic (white)	<u>Scapteriscus acletus</u>	1t: WFT	Plant City, Fla.
13. arsenic tersulfide	<u>Bruchus pisorum</u>	1t: NFT	Forest Grove, Oregon
14. ash (prickly)	<u>Ephestia elutella</u> <u>Lasioderma serricorne</u>	1t: NFT 1t: NFT	Richmond, Va. do
15. barium carbonate	<u>Bruchus pisorum</u>	1t: NFT	Moscow, Idaho
16. barium fluoride	<u>Bruchus pisorum</u> <u>Scapteriscus acletus</u>	1t: NFT 1t: NFT	Forest Grove, Oregon Plant City, Fla.
17. barium fluosilicate	<u>Protoparce sexta</u> <u>Heliothis armigera</u> Cabbage caterpillars <u>Bruchus pisorum</u>	fsp: NFT 1t: VP fsp: VP 1t: NFT	Effective but causes plant injury as spray (Florence, S. C.) Columbus, Ohio Good control for loopers and <u>Agro-</u> <u>tinae</u> . Slight plant injury at <u>75</u> <u>percent</u> strength (Charleston, S. C.) Forest Grove, Oregon; Moscow, Idaho
18. barium fluosilicate-pyrethrum	<u>Protoparce sexta</u>	fsp: NFT	As spray (Florence, S. C.)
19. barium sulfate	<u>Bruchus pisorum</u>	1t: NFT	Moscow, Idaho

Material	Name of Insect Used in Tests	Results (by code)	Remarks
20. basic copper arsenate	<u>Epitrix parvula</u>	fsp, flp: VP	Residual toxicity good. Protection of newly set plants (Florence, S. C.; Oxford, W. C.)
	<u>Protoparce sexta</u>	fsp, flp: VP	Florence, S. C.
	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
	<u>Epilachna varivestis</u>	fsp: VP	Knapsack & power sprayers (Columbus, Ohio)
	<u>Heliothis armigera</u>	fsp: VP	Columbus, Ohio
	<u>Leptinotarsa 10-lineata</u>	fsp: VP	Knapsack sprayer (Columbus, Ohio)
21. basic copper arsenate-cube	<u>Epitrix parvula</u>	fsp, flp: VP	Florence, S. C.
22. basic copper arsenate-pyrethrum	<u>Protoparce sexta</u>	fsp: IFT	Probably no better than basic copper arsenate alone (Florence, S. C.)
23. bismuth oxychloride	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
24. borax	<u>Peltia spp.</u>	lt: NFT	In baits (Phoenix, Ariz.)
25. bordeaux mixture	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
	<u>Tetranychus bimaculatus</u>	fsp: (greenhouse)	No better than checks. Useful where mildew present. (Beltsville, Md.)
	<u>Lygus spp.</u>	fsp: NFT	Pilot tests on seed beets. (Phoenix, Ariz.)
26. bordeaux mixture-calcium arsenate (see calcium arsenate-bordeaux)			
27. bromoform in freon	<u>Ephestia elutella</u> and <u>Lasioderma serricornis</u>	lt: WFT lt: WFT	Tested as aerosol (Richmond, Va.)
28. brown sugar	<u>Taeniothrips simplex</u>	fsp: VP	Used with tartar emetic-4 pounds per 100 gallons -as standard (Beltsville, Md.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
29. butyl carbitol-derris	<u>Macrosiphum pisi</u>	lt: TNS-flp: WFT	A diethylene glycol monobutyl ether (Madison, Wis.)
30. calcium arsenate	<u>Bruchus pisorum</u>	lt: NFT-flp: WFT	Forest Grove, Oregon
	<u>Anthonomus eugenni</u>	flp: VP	Apt to burn foliage and cause aphid infestation (Alhambra, Calif.)
	<u>Heliothis armigera</u>	lt, fsp, flp: VP	Causes burn at times (Alhambra, Calif; Columbus, Ohio)
	do	fsp, flp: WFT	Logan, Utah
	<u>Epitrix cucumeris</u> & <u>E. subcrinita</u>	?	Most economical of promising materials (Yakima, Wash.)
	<u>Scapteriscus vicinus</u>	lt, flp: VP	Plant City, Fla.
	<u>Scapteriscus acletus</u>	lt, flp: NFT	do
	<u>Feltia</u> spp.	lt: NFT	In baits, calcium arsenate-bran 1-50 (Phoenix, Ariz.)
	<u>Sitona lineata</u>	lt: VP-flp: WFT	Concentrations of 50-100 percent required. Some plant injury on vetch (Puyallup, Wash.)
	<u>Cylas formicarius</u>	fsp: TNS-WFT	Sunset, La.
31. calcium arsenate-bordeaux (dry)	<u>Epitrix subcrinita</u> & <u>E. cucumeris</u>	flp: VP	Not better than No. 30 but may have value in disease and leaf hopper control. (Yakima, Wash.)
32. calcium arsenate-cube	<u>Anthonomus eugenni</u> / aphids	flp: WFT	Using individual plants and different brands of calcium arsenate (Alhambra, Calif.)
	<u>Epitrix cucumeris</u> & <u>E. subcrinita</u>	flp: WFT	Can be used at peaks of adult popula- tions but not justified for all appli- cations. (Yakima, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
33. calcium arsenate-paris green	<u>Scapteriscus</u> spp.	lt: TNS	Plant City, Fla.
34. calcium arsenate-pyrethrum	<u>Bruchus pisorum</u> <u>Anthonomus eugenni</u>	lt: WFT-flp-WFT flp: NFT	Forest Grove, Oregon. Using individual plants and different brands of calcium arsenate (Alhambra, Calif.)
	<u>Epitrix cucumeris</u> & <u>E. suberinita</u>	flp: NFT	Less effective than No. 30 (Yakima, Wash.)
35. calcium arsenate-pyrethrum-sulfur	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
36. calcium arsenate-sulfur	<u>Bruchus pisorum</u>	lt: TNS	do
37. calcium carbonate	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
38. calcium chromate	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
39. calcium cyanide	<u>Myzus persicae</u>	flp: VP	Used as substitute for nicotine smudge (Beltsville, Md.)
40. calcium fluoride	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
41. calcium fluosilicate	<u>Bruchus pisorum</u>	lt: NFT	do
42. calomel	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
43. carbon disulfide	<u>Scapteriscus</u> spp. <u>Limenius canus</u> and <u>L. californicus</u>	fsp: WFT fc: WFT	Plant City, Fla. Used for comparisons only (Walla Walla, Wash.)
44. carbon disulphide emulsion	<u>Cotinis nitida</u> <u>Lampetia equestris</u>	fsp: WFT -	Tobacco plant beds (Clarksville, Tenn.) Forcing tolerance test of narcissus bulbs (Sumner, Wash.)
45. carbon tetrachloride	<u>Scapteriscus</u> spp.	fsp: TNS	Plant City, Fla.
46. castor bean plant leaves ("Sprakast")	<u>Epilachna varivestis</u>	lt: NFT	I. D. 6232 (Columbus, Ohio)
47. castor oil	<u>Scapteriscus</u> spp.	fsp: TNS	Very doubtful (Plant City, Fla.)
48. castor oil emulsion	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)
49. cellusolve	<u>Limenius canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
50. chloro-acenaphine in freon	<u>Epehstia elutella</u> and <u>Lasioderma serricorne</u>	lt: NFT	Used as aerosol (Richmond, Va.)
51. 2-chloro-6-nitrotoluene	<u>Bruchus pisorum</u> <u>Heliothis armigera</u>	lt: NFT lt: TNS	Forest Grove, Oregon Columbus, Ohio
52. chloropicrin	<u>Cotinis nitida</u> <u>Scapteriscus</u> spp.	fc: WFT fsp: WFT	Killed all growing plants (Oxford, N. C.) Sometimes phytotoxic (Plant City, Fla.)
53. chlorosol	<u>Lasioderma serricorne</u>	fsp: NFT	Tested in small vacuum chamber under reduced pressure (Richmond, Va.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
54. chlorotone	<u>Ephostia elutella</u>	lt: NFT	Tested as aerosol in freon (Richmond, Va.)
	<u>Lasioderma serricorne</u>	do	do
55. chlorotone in methyl chloride	<u>Tetranychus bimaculatus</u>	lt: NFT	Effective when fresh but injurious to operator (Beltsville, Md.)
56. clay	cabbage caterpillars	fsp: WFT	Used with derris and pyrethrum (Baton Rouge, La.)
57. copper meta-arsenite	<u>Protoparce sexta</u>	fsp: WFT	"Air floating paris green" about equal to standard paris green (Quincy, Fla.)
58. corn oil green (in baits)	<u>Feltia</u> spp.	lt: VP-WFT	Phoenix, Ariz.
59. corn syrup	<u>Taeniothrips simplex</u>	fsp: VP	3 qts. to 3 gals. per 100 water with nicotine sulphate or tartar enic (Beltsville, Md.)
	<u>Scapteriscus</u> spp.	lt, fsp: WFT	Promising attractant (Plant City, Fla.)
60. cottonseed oil emulsion	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
61. Cryolite	<u>Epitrix parvula</u>	fsp, flp: WFT	Most effective as dust; seems to offer protection to newly set tobacco plants. (Florence, S. C.; Oxford, N. C.)
	<u>Protoparce sexta</u>	fsp, flp: VP	Used as spray (Florence, S. C.)
	do	lt: NFT	Comparison of effect of pH value (Oxford, N. C.)
	<u>Bruchus pisorum</u>	lt, flp: WFT	Mescow, Idaho
	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
	<u>Heliothis armigera</u>	lt, flp: VP	About equal to No. 30 (Alhambra, Calif; Columbus, Ohio; Norfolk, Va.)
	<u>Anthonomus eugenni</u>	flp: VP	No burn, Poor dust physically (Alhambra, Calif.)
	<u>Epilachna varivestis</u>	fsp: VP	Norfolk, Va.
	<u>Autographa sp.</u>	fsp: VP	do
	<u>Listroderes obliquus</u>	fsp: WFT	Quincy, Fla.
	<u>Epitrix cucumeris</u> and		
	<u>E. suberinita</u>	flp: VP	With 30 percent Na_3AlF_6 more effective than 20 percent calcium arsenate (Yakima, Wash.)
	<u>Sitona lineata</u>	lt: VP-flp: WFT	High concentrations required. No burn. (Puyallup, Wash.)
62. Cryolite (in baits)	<u>Crambus caliginosellus</u>	flp: TNS	Clarksville, Tenn.
	<u>Autographa brassicae</u>	fsp: VP	Used at 50-75 percent strength in dusts (Charleston, S. C.)
	<u>Agrotinae</u> on cabbage	fsp: VP	Used at 10 percent strength in corn meal bait. (Charleston, S. C.)
	<u>Scapteriscus spp.</u>	lt: NFT	Plant City, Fla.
	<u>Feltia spp.</u>	lt: VP-WFT	In wheat bran 1-50. In corn meal 1-39. Satisfactory as dry mix. (Phoenix, Ariz.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
63. cryolite (low grade, natural) 70 percent Na_3AlF_6	<u>Epitrix cucumeris</u> and <u>E. suberinita</u>	flp: VP	Slightly less effective than regular grade of same Na_3AlF_6 content. (Yakima, Wash.)
64. cryolite-cube	<u>Epitrix parvula</u> do <u>Anthonomus eugeni</u> / aphids <u>Bruchus pisorum</u>	fsp, flp: VP fsp: WFT flp: NFT lt, flp: WFT	Used as spray (Florence, S. C.) Used as dust (Oxford, N. C.) Cube had slight effect on aphid population (Alhambra, Calif.) Moscow, Idaho
65. cryolite-pyrethrum	<u>Epitrix parvula</u> do do <u>Pr. toparce sexta</u> <u>Bruchus pisorum</u> do <u>Anthonomus eugeni</u> / aphids <u>Epilachna varivestis</u> <u>Epitrix cucumeris</u> and <u>E. suberinita</u> <u>Sitona lineata</u>	fsp, flp: NFT fsp: WFT-TNS lt: WFT fsp, flp: NFT lt, flp: WFT lt: NFT flp: NFT fsp: VP flp: WFT lt: WFT	No more effective than cryolite alone. (Florence, S. C.) Oxford, N. C. Quincy, Fla. No more effective than cryolite alone. (Florence, S. C.) Moscow, Idaho Forest Grove, Oregon Pyrethrum had slight effect on aphids (Alhambra, Calif.) Norfolk, Va. Addition of pyrethrum (dry pyrethroid) gave less control than cryolite alone. (Yakima, Wash.) Puyallup, Wash.
66. Cryolite-timber	<u>Epitrix cucumeris</u> and <u>E. suberinita</u>	flp: VP	Increase in control may not justify increase in cost (Yakima, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
67. cube	<u>Epitrix parvula</u>	fsp, flp: VP	Florence, S. C.
	do	fsp: TNS-WFT	As to effect of diluents (Oxford, N. C.)
	do	fsp: VP	Used as standard (Quincy, Fla.)
	<u>Protoparce spp.</u>	flp: VP	Bait containing aqueous extract for adults (Clarksville, Tenn.)
	<u>Bruchus pisorum</u>	lt, flp: VP	Commercially effective (Forest Grove, Oregon)
	<u>Heliothis armigera</u>	flp: NFT	Extract in oil. (Alhambra, Calif.)
	<u>Epilachna varivestis</u>	fsp: VP	Knapsack & power sprayers; dusters. Columbus, Ohio)
	<u>Leptinotarsa 10-lineata</u> <u>Sitona lineata</u>	fsp: VP lt: WFT	Knapsack sprayers (Columbus, Ohio) Puyallup, Wash.
68. cube-nicotine alkaloid	<u>Macrosiphum pisi</u>	flp: VP	With sulfur and distiller's residue from molasses ("vacatone"). (Madison, Wis.)
69. derris	<u>Protoparce spp.</u>	flp: VP	Bait containing aqueous extract for adults (Clarksville, Tenn.)
	<u>Bruchus pisorum</u>	lt, flp: VP	Commercially effective (Forest Grove, Oregon)
	<u>Epilachna varivestis</u>	fsp: VP	Norfolk, Va.
	<u>Corizus sp.</u>	fsp: WFT	As dust, more effective against adults than nymphs. (Phoenix, Ariz.)
	<u>Tetranychus bimaculatus</u> and <u>T. vaporariorum</u>	flp: VP flp: WFT	Plus white oil emulsion (Beltsville, Md.)
	Cabbage caterpillars	fsp, flp: VP	Especially effective for <u>Pieris rapae</u> (Charleston, S. C.; Baton Rouge, La.)
	<u>Rhopalosiphum pseudo-brassicae</u>	fsp: VP	Baton Rouge, La.
	<u>Macrosiphum pisi</u>	lt, flp: VP	Many tests (Madison, Wis.)
	<u>Myzus persicae</u> , <u>Macrosiphum solanifolii</u> and <u>Aphis abbreviata</u>	flp: VP	Madison, Wis.

Material	Name of Insect Used in Tests	Results (by code)	Remarks
70. derris-lubricating oil	<u>Plutella maculipennis</u>	fsp: WFT	SAE 10 oil 2 percent increased toxicity of 0.25 percent dust. (Charleston, S. C.)
71. derris-nicotine alkaloid	<u>Macrosiphum pisi</u>	lt: WFT-flp: VP	Poorer than rotenone alone in greenhouse tests (Madison, Wis.)
72. derris-pyrethrum	Webworm on turnips	flp: WFT	With tobacco dust and sulfur (Florence S. C.)
	<u>Bruchus pisorum</u>	lt: VP-flp: WFT	Results probably due to rotenone and not to combination (Forest Grove, Oregon)
	<u>Epilachna varivestis</u>	fsp: VP	Norfolk, Va.
	cabbage caterpillars	fsp, flp: VP	Effective for all species except Agrotinae (Charleston, S. C.; Baton Rouge, La.)
	<u>Rhopalosiphum pseudo-brassicae</u>	fsp: WFT	Baton Rouge, La.
	<u>Microsiphum pisi</u>	lt, flp: NFT	Dust (Madison, Wis.)
73. dibenzofuran	do	lt, flp: WFT	Extract to reduce rotenone content (Madison, Wis.)
	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
74. dibenzothiophene	<u>Bruchus pisorum</u>	lt: WFT	do
	<u>Heliothis armigera</u>	lt: NFT	Columbus, Ohio
	<u>Ephestia clutella</u> and		
	<u>Lasioderma serricorne</u>	lt: NFT	Tested as aerosol with freon (Richmond, Va.)
75. dibromacrylonitrile in freon	<u>Tetranychus bimaculatus</u>	lt: WFT	Injurious to plants (Beltsville, Md.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
76. di-butyl-phthalate emulsion	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)
77. 2,5-dichloroaniline	<u>Bruchus pisorum</u> <u>Heliothis armigera</u>	lt: NFT lt: NFT	Forest Grove, Oregon Columbus, Ohio
78. dichloroethylene	<u>Limonius canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
79. dichloroethyl ether (various forms)	<u>Cotinis nitida</u> do <u>Heliothis armigera</u> Mushroom flies and mites <u>Scapteriscus</u> spp. <u>Limonius canus</u> and <u>L. californicus</u>	fc: NFT fsp: TNS flp: VP flp: WFT fsp: WFT lt,fsp: WFT	Oxford, N. C. Emulsion applied to soil (Clarksville, Tenn.) One percent in oil with 0.1 percent pyrethrins (Alhambra, Calif.) Crop yield lower than in checks (Beltsville, Md.) Sometimes phytotoxic (Plant City, Fla.) Retarded germination of lima beans. Used with sawdust as repellent. (Ventura, Calif.; Walla Walla, Wash.)
80. dichloroethyl formal	<u>Limonius canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
81. dichloroisopropyl ether	<u>Limonius californicus</u>	fsp: TNS	As repellent in sawdust (Ventura, Calif.)
82. 1,1-dichloro 1-nitro ethane ("Ethide")	<u>Limonius canus</u> and <u>L. californicus</u>	lt,fc,fsp: VP	Walla Walla, Wash.
83. dimethylacridan	<u>Bruchus pisorum</u> <u>Heliothis armigera</u>	lt: NFT lt: WFT	Forest Grove, Oregon Columbus, Ohio

Material	Name of Insect Used in Tests	Results (by code)	Remarks
84. 2,4-dimethyl-3-pentanone semi-carbazone (E-2221)	<u>Protoparce</u> spp.	lt: NFT	Oxford, N. C.
85. 4,6-dinitro-o-cresol (E-22)	<u>Scapteriscus</u> <u>acletus</u>	lt: WFT	Plant City, Fla.
86. 2,4-dinitrophenolacetate (E-1537)	<u>Protoparce</u> spp.	lt: NFT	Severe burning to tobacco foliage (Oxford, N. C.)
87. D-N calcium salt	<u>Epilachna</u> <u>varivestis</u> <u>Heliothis</u> <u>armigera</u>	fsp: NFT fsp: WFT	Norfolk, Va. do.
88. D-N dicyclohexylamine salt	<u>Bruchus</u> <u>pisorum</u> <u>Eriophyes</u> <u>cladophthirus</u> <u>Epilachna</u> <u>varivestis</u>	lt: NFT fsp: NFT fsp: NFT	D-4 and D-8 tested (Moscow, Idaho) Severely burned plants in one test (Alhambra, Calif.) Norfolk, Va.
89. D-N (2,4-dinitro-o-cyclohexylphenol)	<u>Bruchus</u> <u>pisorum</u> <u>Feltia</u> spp.	lt, flp: WFT lt: NFT	2 percent gives good kills but burns foliage. (Moscow, Idaho) In bran baits. Unsatisfactory. (Phoenix, Ariz.)
90. D-N-111 (dinitro-o-cyclohexylphenol dicyclohexylamine salt)	<u>Epilachna</u> <u>varivestis</u> <u>Leptinotarsa</u> <u>10-lineata</u> <u>Heliothis</u> <u>armigera</u>	fsp: NFT fsp: VP lt: NFT	Knapsack & power sprayers (Columbus, O.) Knapsack sprayers (Columbus, Ohio) Columbus, Ohio
91. D-N magnesium salt	<u>Limonius</u> <u>canus</u> and <u>L.</u> <u>californicus</u>	lt: WFT	Walla Walla, Wash.

Material	Name of Insect Used in Tests	Results (by code)	Remarks
92. D-N (ortho cyclo hexyl phenol)	<u>Bruchus pisorum</u>	lt: VP	A 45-lb. per acre application of 1 percent D-N dust appears to be about as effective as 20 lbs. of 0.75 percent rotenone (Forest Grove, Oregon)
	<u>Lygus hesperus</u> and <u>L. oblineatus</u>	fc, fsp: NFT	Phoenix, Ariz.
	<u>Limonius canus</u> and <u>L. californicus</u>	lt: WFT	Walla Walla, Wash.
93. D-N (triethandamine salt)	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
94. D-N-cube	do	lt: WFT	0.25 percent cube used (Moscow, Idaho)
95. D-N - dry pyrocide	do	lt, flp: WFT	Good laboratory kill but failed in the field (Moscow, Idaho)
96. D-N - sulfur	<u>Heliothis armigera</u>	fsp: NFT	Columbus, Ohio
	<u>Epilachna varivestis</u>	fsp: NFT	Knapsack and power sprayers (Columbus, Ohio)
	<u>Epilachna varivestis</u>	fsp: NFT	Norfolk, Va.
	<u>Lygus hesperus</u> and <u>L. oblineatus</u>	fc, fsp: WFT	D-N effective against <u>C. sayi</u> but not as effective as some other insecticides against <u>Lygus</u> spp. May be of value when both species present. (Phoenix, Ariz)
97. diphenylamine	<u>Bruchus pisorum</u>	lt: WFT	About 20 percent kill with 30 lbs. per acre of dust (Forest Grove, Oregon)
	<u>Heliothis armigera</u>	fsp: NFT	Columbus, Ohio

Material	Name of Insect Used in Tests	Results (by code)	Remarks
98. diphenylene oxide	<u>Epilachna varivestis</u> <u>Heliothis armigera</u> <u>Leptinotarsa decemlineata</u>	fsp: NFT lt: NFT fsp: NFT	Knapsack & power sprayers (Columbus, O.) Columbus, Ohio Knapsack sprayers. Effective as 50-50 dust in 1941. (Columbus, Ohio)
	<u>Ephestia elutella</u> and <u>Lasioderma serricorne</u>	lt: NFT	Tests as aerosol in freon (Richmond, Va.)
99. diphenylethane (chlorinated) "Gesarol"	<u>Bruchus pisorum</u> <u>Epilachna varivestis</u>	lt: NFT lt: WFT	Moscow, Idaho Very promising in greater dosages than rotenone (Columbus, Ohio)
100. 1-4 diphenyl semicarbazide	do <u>Heliothis armigera</u> <u>Epilachna varivestis</u>	lt: NFT lt: TMS fsp: WFT	Forest Grove, Oregon Columbus, Ohio Knapsack & power sprayers (Columbus, Ohio)
	<u>Leptinotarsa decemlineata</u> <u>Scapteriscus acletus</u> <u>Sitona lineata</u>	fsp: WFT lt: NFT lt: NFT	Knapsack sprayers (Columbus, Ohio) Plant City, Fla. Puyallup, Wash.
101. 1-4 diphenyl semicarbazide-cube	<u>Bruchus pisorum</u>	lt: WFT	0.25 percent cube (Moscow, Idaho)
102. dioxane	<u>Limonius canus</u> and <u>L.</u> <u>californicus</u>	lt: NFT	Walla Walla, Wash.
103. "Elgetol" (see sodium dinitro ortho cresolate)			
104. ethylene bromide	<u>Limonius canus</u> and <u>L.</u> <u>californicus</u>	lt: WFT	Walla Walla, Wash.
105. ethylene chloride	do	lt: TMS	do

Material	Name of Insect Used in Tests	Results (by code)	Remarks
106. ethylene dichloride emulsion	<u>Lampetia equestris</u>	-	Forcing tolerance of narcissus bulbs (Sumner, Wash.)
	<u>Cotinis nitida</u>	fsp: WFT	Clarksville, Tenn.
107. "Ethide" (see 1,1-dichloro - 1 nitroethane)			
108. fish oil	<u>Scapteriscus</u> spp.	lt: WFT	Promising attractant (Plant City, Fla.)
109. fish oil emulsion	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)
110. 2-fluorylamine	<u>Protoparce</u> spp.	lt: VP-WFT	Oxford, N. C.
111. formaldehyde (baits)	<u>Feltia</u> spp.	lt: WFT	Shows promise as bait conditioner (Phoenix, Ariz.)
	<u>Scapteriscus</u> spp.	fsp: TNS	Phytotoxic (Plant City, Fla.)
112. fuel oil	<u>Epitrix parvula</u>	fsp: VP	Perfect control for larvae (Oxford, N. C.)
113. 2-furaldehyde semicarbazone (E-1458)	<u>Protoparce</u> spp.	lt: TNS-WFT	Oxford, N. C.
114. gasoline	<u>Cotinis nitida</u>	fsp: WFT	Florence, S. C.
	do	fc: NFT	Oxford, N. C.
	do	fsp: VP	Applied to soil (Clarksville, Tenn.)
	<u>Epitrix parvula</u>	fsp: VP	Oxford, N. C.
115. "Gesarol" (see diphenylethane (chlorinated)			
116. "Genicide" (see xanthone)			

Material	Name of Insect Used in Tests	Results	Remarks
117. guanadine nitro ortho cresylate	<u>Bruchus pisorum</u>	lt: NFT	Not as effective as ammonium compound (Forest Grove, Oregon)
118. hot water	<u>Tarsonemus pallidus</u>	fsp: VP	Tolerance of delphinium good (Beltsville, Md.)
119. ID-6163	<u>Anthonomus eugenni</u> <u>Bruchus pisorum</u>	fc: WFT lt: VP	Excellent dust (Alhambra, Calif.) Moscow, Idaho.
120. IN-173A	do	lt: NFT	Moscow, Idaho
121. IN-2391A2	<u>Limonius californicus</u> (larvae)	lt, fsp: WFT	Good kills in laboratory but ineffective in the field (Ventura, Calif.)
122. iron arsenate	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
123. iron ferrocyanide	do	lt: NFT	Forest Grove, Oregon
124. isoamyl salicylate	<u>Protoparce</u> spp. do <u>Taeniothrips simplex</u>	flp: WFT fsp, flp: VP fsp: NFT	Attrahent for moths (Florence, S. C.) Attrahent for moths (Clarksville, Tenn.) Used as a substitute for brown sugar with tartar emetic (Beltsville, Md.)
125. isobutyl undecylenamine	<u>Bruchus pisorum</u>	lt: NFT	2 percent tested (Moscow, Idaho)
126. Isopropyl formate emulsion	<u>Lampetia equestris</u>	-	Forcing tolerance tests of narcissus bulbs (Sumner, Wash.)
127. K-1127	<u>Ephestia elutella</u> and <u>Lasioderma serricorne</u>	lt: NFT	Tested as aerosol in freon (Richmond, Va.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
128. kerosene emulsion - dorris	<u>Myzus persicae</u> ; <u>Macrosiphum solanifolii</u> and <u>Aphis abbreviata</u>	flp: TNS	Madison, Wis.
129. lauryl thiocyanate (see "Loro")			
130. lead acetate	<u>Scapteriscus acletus</u>	lt: NFT	Plant City, Fla.
131. lead arsenate	<u>Protoparce sexta</u> do <u>Listroderes obliquus</u> <u>Crambus caliginosellus</u> <u>Bruchus pisorum</u> <u>Leptinotarsa declinata</u> <u>Taeniothrips simplex</u> <u>Scapteriscus spp.</u> <u>Sitona lineata</u>	flp: VP fsp: VP fsp: VP fsp: TNS lt: NFT fsp: VP fsp: NFT lt: NFT lt: WFT	As spray (Florence, S. C.) Used as standard (Quincy, Fla.) Used as standard (Quincy, Fla.) Applied to roots of tobacco seedlings (Clarksville, Tenn.) Basic & standard (Forest Grove, Oregon) Knapsack sprayer (Columbus, Ohio) Inferior to paris green, nicotine or tartar emetic (Beltsville, Md.) Plant City, Fla. Puyallup, Wash.
132. lead arsenate - cube	<u>Epitrix parvula</u>	flp: VP	Florence, S. C.
133. lead arsenate - paris green	<u>Epitrix parvula</u>	fsp: WFT	Protection of newly set tobacco plants. (Oxford, N. C.)
134. lead carbonate	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
135. lead sulfate	do	lt: NFT	Moscow, Idaho
136. lead tartrate	do	lt: NFT	Moscow, Idaho

Material	Name of Insect Used in Tests	Results (by code)	Remarks
137. "Lethane"	<u>Sitona lineata</u>	lt: NFT	May be worth further tests in combination with other materials. (Puyallup, Wash.)
	<u>Protoparce sexta</u>	fc: NFT	Quincy, Fla.
	<u>Rhopalosiphum pseudo-brassicae</u>	fsp: WFT (?)	Value doubtful. (Baton Rouge, La.)
	<u>Ephestia elutella</u>	lt: WFT (?)	Objectionable on stored tobacco because of odor. (Richmond, Va.)
	<u>Lasioderma serricorne</u>	lt: NFT	do
	<u>Limonius canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
138. "Lethane" 60	<u>Bruchus pisorum</u>	lt: WFT (?)	Effects similar to pyrethrum. Produces rapid and severe temporary paralysis but recovery is rapid and sure. (Forest Grove, Oregon)
	do	lt: NFT	Moscow, Idaho
	<u>Taeniothrips simplex</u>	fsp: NFT	Greenhouse tests. Very inferior to other materials. (Beltsville, Md.)
	<u>Tetranychus bimaculatus</u>	fsp: WFT	Greenhouse tests. Without spreader. (Beltsville, Md.)
	<u>Myzus persicae</u> ; <u>Macrosiphum solanifolii</u> and <u>Aphis abbreviata</u>	flp: NFT	Madison, Wis.
139. "Lethane" 384	<u>Bruchus pisorum</u>	lt: WFT (?)	See note under 136. (Forest Grove, Oregon)
140. "Lethane" 410	do	lt: NFT	Moscow, Idaho
141. "Lethane" 440	do	lt: NFT	Moscow, Idaho
	<u>Epitrix cucumeris</u> and <u>E. subcrinita</u>	lt: TNS-WFT	1-200 spray, 40 percent mortality of adults after 91 hrs. (Yakima, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
142. "Lethane" - cryclite	<u>Epilachna varivestis</u> <u>Heliothis armigera</u>	fsp: NFT fsp: NFT	Norfolk, Va. do
143. "Lethane" 384 - cryolite	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
144. "Lethane" - cube	<u>Protoparce sexta</u> <u>Bruchus pisorum</u>	fc: VP lt: NFT	Cage tests frequently misleading. Quincy, Fla.) 0.25 percent rotenone - 1.0 lethane. (Moscow, Idaho)
145. "Lethane" - derris	<u>Protoparce sexta</u> <u>Bruchus pisorum</u> <u>Epilachna varivestis</u> <u>Rhopalosiphum pseudo-</u> <u>brassicae</u> <u>Autographa brassica</u> and <u>Plutella maculipennis</u> <u>Macrosiphum pisi</u>	fc: VP lt: VP fsp: WFT fsp: WFT (?) fsp: WFT flp: WFT	Quincy, Fla. See note under 142. Effects considered to be due entirely to rotenone. No evidence of effective synergistic activity. (Forest Grove, Oregon) Norfolk, Va. Value doubtful. (Baton Rouge, La.) 2 percent of Lethane 60 improved 0.25 percent rotenone dust (Charleston, S. C.) Lethane-60 used to reduce rotenone content. (Madison, Wis.)
146. "Lethane" - pyrethrum	<u>Protoparce sexta</u> <u>Epilachna varivestis</u> <u>Rhopalosiphum pseudo-</u> <u>brassicae</u> <u>Pieris rapae</u> ; <u>Autographa</u> <u>brassicae</u> <u>Plutella maculipennis</u>	fc: VP fsp: WFT fsp: WFT (?) fsp: VP-WFT	Cage tests frequently misleading (Quincy, Fla.) Norfolk, Va. Value doubtful. (Baton Rouge, La.) Addition of 2 percent Lethane-60 increased effectiveness of a dust containing 0.15 percent pyrethrins (Charleston, S. C.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
147. "Lethane" 60, 384-Pyrethrum	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
148. "Lethane" - talc	<u>Epilachna varivestis</u>	fsp: NFT	Norfolk, Va.
149. Lime (quick)	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
150. Lime sulfur	<u>Tarsonemus pallidus</u> and <u>Hemitarsonemus latus</u>	fs: VP	When used with several spreaders. (Beltsville, Md.)
	<u>Tetranychus bimaculatus</u>	flp: VP	Only when used with spreader. (Beltsville, Md.)
151. lime sulfur - pyrethrum	<u>Eutettix tenellus</u>	flp: VP	There was no significant difference in control between dry lime sulfur- pyrethrum versus liquid lime sulfur-pyrethrum. There was no significant difference in control between Pyrocide 20 plus soap versus Multicide in comparable mixtures (Twin Falls, Idaho.)
152. lithium fluoride	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
153. "Loro" (lauryl thiocyanate)	do	lt: NFT	2 percent mixture (Moscow, Idaho)
	<u>Taeniothrips simplex</u>	fsp: NFT	Inferior to other materials tested (Beltsville, Md.)
	<u>Hemitarsonemus latus</u> and <u>Tarsonemus pallidus</u>	fsp: VP	Most toxic spray for eggs and other stages (Beltsville, Md.)
	<u>Ephostia elutella</u> and <u>Lasioderma serricorne</u>	lt: WFT	Tested as aerosol with freon (Richmond, Va.)
	<u>Limonius canus</u> and <u>L.</u> <u>californicus</u>	lt: NFT	Walla Walla, Wash.

Material	Name of Insect Used in Tests	Results (by code)	Remarks
154. "Loro" and acrylonitrile in freon	<u>Tetranychus bimaculatus</u> <u>Tarsonemus pallidus</u>	lt: WFT lt: VP-WFT	Injurious to beans but not snapdragon. Beltsville, Md.
155. "Loro" in methyl chloride in freon	<u>Tarsonemus pallidus</u>	fsp: VP	2 weekly fumigations kill all mites on snapdragons. Injury from 4 weekly applications (Beltsville, Md.)
156. "Lysol" dip (in baits)	<u>Feltia</u> spp.	lt: NFT	Not satisfactory as insecticide or as bait conditioner (Phoenix, Ariz.)
157. lye (in baits)	<u>Feltia</u> spp.	lt: WFT	Shows promise as conditioner (Phoenix, Ariz.)
158. magnesium arsenate	<u>Crambus caliginosellus</u>	fsp: TNS	Clarksville, Tenn.
159. magnesium fluoride	<u>Scapteriscus acletus</u>	lt: NFT	Plant City, Fla.
160. magnesium oxide	<u>Bruchus pisorum</u>	lt: VP-WFT	Helps as carrier for pyrethrum and rotenone (Moscow, Idaho)
161. mannitan monolaurate ("MNO")	<u>Hemitarsonemus latus</u> and <u>Tarsonemus pallidus</u>	lt: VP	Ineffective alone. Promising as spreader with lime sulfur or derris extract (Beltsville, Md.)
	<u>Tetranychus bimaculatus</u>	flp: VP	Has some value
162. "MNOR"	do	flp: VP	Beltsville, Md.
163. mercaptobenzothiazole	<u>Bruchus pisorum</u> <u>Heliothis armigera</u>	lt: NFT lt: NFT	Forest Grove, Oregon Columbus, Ohio

Material	Name of Insect Used in Tests	Results (by code)	Remarks
164. mercury arsenate	<u>Bruchus pisorum</u>	lf: NFT	Forest Grove, Oregon
165. mercuric chloride	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs. (Sumner, Wash.)
166. mercurous chloride (See calomel No. 42)			
167. metaldehyde	<u>Sitona lineata</u>	lt: WFT	Baits given small tests. Should be tried outdoors. (Puyallup, Wash.)
	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
168. methyl bromide	<u>Taeniothrips simplex</u>	fsp: VP	Controls thrips in flowers at lower dosages than in corms (Beltsville, Md.)
	<u>Tarsonemus pallidus</u>	fsp: VP	Tolerated by plants (Beltsville, Md.)
	<u>Scapteriscus</u> spp.	fsp: WFT	Plant City, Fla.
	<u>Limoniuss canus</u> and <u>L. californicus</u>	fc: VP-fsp: TNS	NFT with potatoes (Walla Walla, Wash.)
	<u>Lampetia equestris</u> and <u>Tarsonemus laticeps</u>	lt: VP	Sumner, Wash.
169. methyl salicylate (drench)	Mushroom mites and flies	fsp: WFT	Results based on production records. Mushrooms discolored (Beltsville, Md.)
170. mineral oil emulsion	<u>Tetranychus bimaculatus</u>	flp: VP	When used as a spreader with derris powder. See also Item 69 (Beltsville, Md.)
	<u>Lampetia equestris</u>	fsp: VP	Sumner, Wash.

Material	Name of Insect Used in Tests	Results (by code)	Remarks
171. mineral oil emulsion-castor oil	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)
172. mineral oil emulsion - ethylene dichloride	do	-	do
173. mineral oil emulsion - fish oil	do	-	do
174. mineral oil emulsion - lead arsenate	do	-	do
175. mineral oil emulsion - "Loro"	do	-	do
176. mineral oil emulsion - nicotine sulphate	do	-	do
177. mineral oil emulsion - paradichlorobenzene	do	-	do
178. molasses (black strap)	<u>Taeniothrips simplex</u>	fsp: VP	With tartar emetic, SALP, paris green. Poor results with nicotine sulfate. (Beltsville, Md.)
179. molasses (sticker - "Vacatone")	Cabbage caterpillars	fsp: WFT	Addition of 5 percent improved cryolite dust in control of <u>Agrotinae</u> and rotenone dust in control of loopers and diamond back moth. Charleston, S. C.)
180. monoethanolamine	<u>Limoniuss canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
181. morpholine	do	lt: NFT	do

Material	Name of Insect Used in Tests	Results: (by code)	Remarks
182. naphthalene	<u>Scapteriscus</u> spp. <u>Limoni</u> s <u>californicus</u> <u>Limoni</u> s <u>canus</u> and <u>L.</u> <u>californicus</u> <u>Lampetia</u> <u>equestris</u> <u>Limoni</u> s <u>californicus</u>	fsp: TNS fsp: VP-flp: WFT fc, fsp, flp: VP lt, fsp: VP fsp: WFT	Doubtful; phytotoxic (Plant City, Fla.) Cement mixer tests (Twin Falls, Idaho) NFT with growing or freshly planted crops (Twin Falls, Idaho) Sumner, Wash. Applied in the plow-furrow at rate of 343 lbs. per acre. Killed 45 percent of the larvae to depth of 16 inches. (Ventura, Calif.)
183. naphthalene - carbon disulfide	<u>Lampetia</u> <u>equestris</u>	-	Forcing tolerance tests of narcissus bulbs (Sumner, Wash.).
184. n-butyl undecylenamide-pyrethrum	<u>Ephestia</u> <u>elutella</u> and <u>Lasioderma</u> <u>serricornis</u>	lt: WFT	Tested as aerosol with freon (Richmond, Va.)
185. nicotine (dual fixed)	<u>Protoparce</u> <u>sexta</u> <u>Epitrix</u> <u>parvula</u> <u>Epitrix</u> <u>suberinita</u> and <u>E.</u> <u>cucumeris</u> Cabbage caterpillars	fc: NFT lt: NFT fsp: TNS-WFT fsp: NFT	Quincy, Fla. do Used as dust and believed to contain 4 percent or more actual nicotine. Too coarse, should be micronized. (Yakima, Wash.) Black leaf 155 used (Baton Rouge, La.)
186. nicotine (free)-drench	Mushroom mites and flies	fsp: WFT	Results based on production records (Beltsville, Md.)
187. nicotine (pressure can)	<u>Myzus</u> <u>persicae</u> <u>Aphis</u> <u>gossypii</u>	flp: VP flp: VP	Used as fumigant (Beltsville, Md.) do

Material	Name of Insect Used in Tests	Results (by code)	Remarks
188. nicotine alkaloid	<u>Macrosiphum pisi</u>	lt: VP	Must be at least 3 percent nicotine (Madison, Wis.)
189. nicotine sulfate	<u>Taeniothrips simplex</u>	fsp: VP	Equal to tartar emetic when used with corn, cane or maple syrup (Beltsville, Md.)
	<u>Scapteriscus acletus</u>	lt: NFT	Plant City, Fla.
	<u>Heliothrips femoralis</u>	fsp: VP	When used with corn syrup or SS-3 Superior to tartar emetic combinations (Beltsville, Md.)
	<u>Macroductylus subspinosus</u>	lt: TNS	Beltsville, Md.
	<u>Epitrix subcrinita</u> and <u>E. cucumeris</u>	lt: TNS	40 percent nicotine sulphate 1-400 spray. (Yakima, Wash.)
	<u>Macrosiphum pisi</u>	lt: VP	Madison, Wis.
	<u>Myzus persicae</u> ; <u>Macrosiphum solanifolii</u> ; <u>Aphis abbreviatus</u>	flp: VP	Plus "Santomerse" spreader (Madison, Wis.)
190. n-isobutyl undecylenamine- pyrethrum ("Pyrin")	<u>Bruchus pisorum</u>	lt: NFT	2 percent tested (Moscow, Idaho)
191. nitromethene	<u>Limonius canus</u> & <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
192. 2-nitro-2-methyl-1-propanol (E-2375)	do	lt: NFT	do
193. nitrosodiphenylamine	<u>Anthonomus eugenni</u>	fc: NFT	Poor dust physically (Alhambra, Calif.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
194. p-aminoacetanilide	<u>Bruchus pisorum</u> <u>Epilachna varivestis</u> <u>Heliothis armigera</u> <u>Leptinotarsa decemlineata</u> <u>Epilachna varivestis</u> <u>Scapteriscus acletus</u> <u>Sitona lineata</u>	lt: NFT fsp: NFT lt: TNS fsp: NFT fsp: NFT lt: NFT lt: WFT	Forest Grove, Oregon Knapsack & power sprayers (Columbus, Ohio) Columbus, Ohio Knapsack sprayers (Columbus, Ohio) Not effective when used as dust (15-85) with talc (Norfolk, Va.) Plant City, Fla. Shows promise as deterrent when applied in liquid form. No appreciable kill (Puyallup, Wash.)
195. p-aminoacetanilide-cube	<u>Bruchus pisorum</u>	lt: NFT	0.25 percent cube (Moscow, Idaho)
196. p-aminoazobenzene hydrochloride	do <u>Heliothis armigera</u> <u>Epilachna varivestis</u> <u>Leptinotarsa decemlineata</u> <u>Scapteriscus acletus</u> <u>Sitona lineata</u>	lt: NFT lt: TNS fsp: NFT fsp: NFT lt: NFT lt: NFT	Forest Grove, Oregon Columbus, Ohio Knapsack & power sprayers (Columbus, Ohio) Knapsack sprayer. Burned plants. (Columbus, Ohio) Plant City, Fla. Puyallup, Wash.
197. p-aminoazobenzene hydrochloride- cube	<u>Bruchus pisorum</u>	lt: NFT	0.25 percent cube (Moscow, Idaho)
198. paradichlorobenzene	do <u>Cotinis nitida</u>	lt: NFT fsp: NFT	Forest Grove, Oregon Oxford, N. C.
199. paradichlorobenzene-carbon disulfide	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
200. paris green (other than in baits)	<u>Bruchus pisorum</u> <u>Corizus</u> sp. <u>Taeniothrips simplex</u> <u>Sitona lineata</u>	lt: NFT fsp: WFT fsp: VP lt: VP	Forest Grove, Oregon Paris green-sulfur-lime dust effective against nymphs. (Phoenix, Ariz.) 0.4 lbs. with 2 qts. black strap molasses or 3 gals. corn syrup per 100 gals. (Beltsville, Md.) Puyallup, Wash.
201. paris green (in baits)	<u>Cotinis nitida</u> do do <u>Feltia</u> spp. <u>Scapteriscus</u> spp. <u>Sitona lineata</u> <u>Cylas formicarius</u>	fsp: VP fc: TNS fsp: VP lt: VP lt: WFT lt: WFT lt, fsp: WFT	For larvae in plant beds (Florence, S.C.) Oxford, N. C. With bran (Clarksville, Tenn.) Very effective (Phoenix, Ariz.) Plant City, Fla. Puyallup, Wash. Paris green produces satisfactory mortality. Further trials with additional carriers warranted. Not considered satisfactory when applied in growing crop (Sunset, La.)
202. paris green-lead arsenate (See Item 133)			
203. paris green-sulfur	<u>Lygus hesperus</u> and <u>L. oblineatus</u>	fc, fsp: NFT	No better than sulfur alone (Phoenix, Ariz.)
204. p-bromoacetanilide	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
205. p-chloroacetanilide	do	lt: NFT	Moscow, Idaho
206. p-dibromobenzene	do <u>Heliothis armigera</u>	lt: NFT lt: NFT	Forest Grove, Oregon Columbus, Ohio

Material	Name of Insect Used in Tests	Results (by code)	Remarks
207. p-dichlorobenzene	<u>Bruchus pisorum</u> <u>Heliothis armigera</u>	lt: NFT lt: NFT	Forest Grove, Oregon Columbus, Ohio
208. peanut oil green (in baits)	<u>Feltia</u> spp.	lt: VP-WFT	Phoenix, Ariz.
209. phenazine (E-2)	<u>Anthonomus eugenni</u> <u>Scaptocriscus aelctus</u>	fc: NFT lt: NFT	Burned foliage badly (Alhambra, Calif.) Plant City, Fla.
210. phenothiazine	<u>Bruchus pisorum</u> do <u>Heliothis armigera</u> do do <u>Epilachna varivestis</u> <u>Taeniothrips simplex</u> <u>Sitona lineata</u> Cabbage caterpillars do <u>Lampetia equestris</u>	lt: NFT lt: NFT lt: NFT fls: WFT fsp: VP fsp: VP fsp: NFT lt: TNS fsp: WFT fsp: WFT -	Micronized; 33-1/3 percent pyrophyllite (Moscow, Idaho) Forest Grove, Oregon Columbus, Ohio In oil. Alhambra, Calif. Norfolk, Va. do Inferior to other materials tested (Beltsville, Md.) Puyallup, Wash. Baton Rouge, La. 20 percent dust reduced <u>Agrotinae</u> population 75 percent and looper population 50 percent. Of value in present emergency for use during heading stage of plant (Charleston, S. C.) Forcing tolerance test of narcissus bulbs (Sumner, Wash.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
211. phenothioxin	<u>Bruchus pisorum</u> <u>Anthonomus eugenni</u>	lt: NFT fc: TNS	Moscow, Idaho Too coarse for good dust. Should have further trials after being ground finer. (Alhambra, Calif.)
	<u>Limonius canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.
212. phenothioxin-derris	<u>Epilachna varivestis</u>	lt: TNS	Columbus, Ohio
213. phthalic glyceryl alkyd resin (B-1956 spreader)	<u>Tarsonemus pallidus</u> <u>Tetranychus bimaculatus</u> Mushroom mites and flies	lt: NFT lt: TNS flp: WFT	Non-toxic to mites (Beltsville, Md.) Beltsville, Md. Mushrooms discolored through lowered production (Beltsville, Md.)
214. phthalonitrile	<u>Protoparce</u> spp. <u>Bruchus pisorum</u> do	lt: WFT lt: NFT lt: NFT	Oxford, N. C. Moscow, Idaho Control possible but only at impossible high concentrations and rates i.e. 50-70 lbs. per acre of 50 percent dust (Forest Grove, Oregon)
	<u>Epilachna varivestis</u>	fsp: NFT	Knapsack & power sprayers (Columbus, Ohio)
	<u>Heliothis armigera</u>	fsp: NFT	Columbus, Ohio
	<u>Leptinetarsa decomlineata</u>	fsp: NFT	Knapsack sprayer. Initial toxicity poor; residual effect (Columbus, Ohio)
	<u>Epilachna varivestis</u>	fsp: NFT	Not effective when used as 15-85 dust with talc (Norfolk, Va.)
	<u>Feltia</u> spp.	lt: TNS	Not very promising (Phoenix, Ariz.)
	<u>Scapteriscus acletus</u>	lt: NFT	Plant City, Fla.
	<u>Sitona lineata</u>	lt: WFT	Puyallup, Wash.
	<u>Limonius canus</u> and <u>L. californicus</u>	lt: NFT	Walla Walla, Wash.

Material	Name of Insect Used in Tests	Results (by code)	Remarks
215. phthalonitrile-cube	<u>Bruchus pisorum</u>	1t: NFT	0.25 percent cube (Moscow, Idaho)
216. phthalonitrile-sulfur	<u>Lygus hesperus</u> and <u>L. oblineatus</u>		Used as dust 13.3 percent phthalonitrile and 86.7 percent sulfur. More effective than sulfur alone but not as good as pyrocide and sulfur. Cost prohibitive on seed beets (Phoenix, Ariz.)
217. p-nitrochlorobenzene	<u>Bruchus pisorum</u> <u>Heliothis armigera</u>	1t: NFT 1t: NFT	Forest Grove, Oregon Columbus, Ohio
218. potassium carbonate	<u>Scapteriscus acletus</u>	1t: NFT	Plant City, Fla.
219. potassium chlorate	do	1t: NFT	do
220. potassium fluosilicate	<u>Bruchus pisorum</u>	1t: NFT	Forest Grove, Oregon
221. propylene chloride	<u>Limonius canus</u> and <u>L. californicus</u>	1t: NFT	Walla Walla, Wash.
222. pyrethrum (extract)	<u>Myzus persicae</u> ; <u>Macrosiphum solanifolii</u> and <u>Aphis abbreviata</u> <u>Eutettix tenellus</u>	flp: NFT flp: VP	Used as spray (Madison, Wis.) Extract in oil as spray now accepted commercial control on seed beets (Phoenix, Ariz.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
223. pyrethrum (flowers)	<u>Protoparce sexta</u>	fsp, flp: NFT	As spray. No particular value at strength tested (Florence, S. C.)
	<u>Epitrix parvula</u>	fsp, flp: NFT	do
	do	fsp: WFT	Especially with talc (Oxford, N. C.)
	do	fsp: NFT	Quincy, Fla.
	<u>Protoparce spp.</u>	fc: VP	In sweetened baits for adults (Clarksville, Tenn.)
	<u>Bruchus pisorum</u>	lt: NFT	Control achieved under laboratory conditions with 0.2 percent pyrethrins at rate of 75 lbs. per acre (Forest Grove, Oregon)
	<u>Epilachna varivestis</u>	fsp: WFT	Knapsack and power sprayers; dusters. Spray preferable; weak residual effect (Columbus, Ohio)
	<u>Leptinotarsa decemlineata</u>	fsp: WFT	Knapsack sprayers. Weak residual effect (Columbus, Ohio)
	<u>Epilachna varivestis</u>	fsp: VP	Norfolk, Va.
	<u>Heliothis armigera</u>	flp: VP	In oil (Alhambra, Calif.)
	<u>Nodonota puncticollis</u>	lt: WFT	When used with sulfur and talc as dust (Beltsville, Md.)
	<u>Macroductylus subspinosus</u>	lt: WFT	When used as undiluted dust or as spray (Beltsville, Md.)
	<u>Lygus hesperus</u> and <u>L. oblineatus</u>	lt, fc, fsp: VP	As oil spray damaged beet flowers (Phoenix, Ariz.)
	<u>Scapteriscus spp.</u>	fsp: TNS	Plant City, Fla.
	<u>Sitona lineata</u>	lt, flp: NFT	No value alone. Kill obtained only in closed containers (Puyallup, Wash.)
Cabbage caterpillars	<u>Rhopalosiphum pseudo-brassicarum</u>	fsp, flp: VP	Baton Rouge, La.
	<u>Rhopalosiphum pseudo-brassicarum</u>	fsp: WFT	Baton Rouge, La.
	cabbage caterpillars	fsp: VP	0.3 pyrethrins very effective for loopers and to some extent for imported cabbage worm and diamond back moth (Charleston, S. C.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
	<u>Macrosiphum pisi</u>	1t, flp: NFT	Used in dust mixture (Madison, Wis.)
	<u>Ephestia elutella</u> and <u>Lasioderma serricorne</u>	1t, flp: VP	Tested both as aerosol with freon and as oil spray. Most effective material. (Richmond, Va.)
224. pyrethrum (impregnated: "Pyrocide", "Stintox")	<u>Epitrix parvula</u>	fsp: TNS-WFT	Oxford, N. C.
	<u>Bruchus pisorum</u>	1t, flp: WFT	Pyrocide 5, 10, & 15 (Moscow, Idaho)
	do	1t: NFT	Extensive tests conducted in comparison with ground pyrethrum flowers. Effect slightly to distinctly inferior to pyrethrum dusts containing comparable pyre- thrins.
	<u>Lygus hesperus</u> and <u>L.</u> <u>oblineatus</u>	1t, fc, fsp: VP	"Dry pyrocide 10" gave best results 0.2 percent pyrethrins (Phoenix, Ariz.)
	Cabbage caterpillars	fsp, flp: VP	Baton Rouge, La. Pyrocide
	<u>Rhopalosiphum pseudo-</u> <u>brassicae</u>	fsp: WFT	do
	Cabbage caterpillars	fsp: VP	0.15. percent pyrethrins very effec- tive for loopers and to some extent for imported cabbage worm and dia- mond back moth. "Stintox", "Pyrocide" (Charleston, S. C.)
	<u>Macrosiphum pisi</u>	1t: WFT-fls ^o NFT	Madison, Wis.
225. pyrethrum (flowers) - cube	<u>Sitona lineata</u>	1t, flp: NFT	Puyallup, Wash.
226. pyrethrum (impregnated) - cube	<u>Bruchus pisorum</u>	1t, flp: WFT	Pyrocide 5 used 0.25 percent cube kill may be due to rotenone (Moscow, Idaho)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
227. pyrethrum (flowers) - derris (See Item 72)			
228. pyrethrum (flowers) - lubricating oil	Cabbage caterpillars	fsp: WFT	2 percent oil increases toxicity of a 0.15 percent pyrethrins dust to cabbage looper and imported cabbage worm (Charleston, S. C.)
229. pyrethrum (flowers) - nicotine	Cabbage caterpillars	fsp: WFT	Used "Blackleaf 10 & 155" (Baton Rouge, La.)
	<u>Rhopalosiphum pseudo-</u> <u>brassicae</u>	fsp: WFT	do
	<u>Plutella maculipennis</u>	fsp: VP	2 percent free nicotine to 0.15 percent pyrethrins dust increased control (Charleston, S. C.)
230. pyrethrum (impregnated) - nicotine	Cabbage caterpillars	fsp, flp: WFT	Used "Black leaf 10 & 155" (Baton Rouge, La.)
	<u>Rhopalosiphum pseudo-</u> <u>brassicae</u>	fsp: WFT	Used "Black leaf 10" (Baton Rouge, La.)
231. pyrethrum-rotenone extract	<u>Megaselia</u> sp.	flp: WFT	Used as aerosol for fumigating growing mushrooms (Beltsville, Md.)
	<u>Ephestia elutella</u>	lt: WFT	Tested as aerosol with freon. Not as good as pyrethrum alone (Richmond, Va.)
	<u>Lasioderma serricorne</u>	lt: NFT	do
232. pyrethrum (flowers) - sesame oil	<u>Megaselia</u> sp.	fsp: VP	Used as aerosol (Beltsville, Md.)
	<u>Ephestia elutella</u> and <u>Lasioderma serricorne</u>	lt: WFT	Tested as aerosol with freon. "Ultrasene". No better than pyrethrum alone (Richmond, Va.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
233. "Pyrin" (See n-isobutyl undecylenamido)			
234. pyrophyllite	Cabbage caterpillars	fsp: WFT	Used with derris and pyrethrum (Baton Rouge, La.)
235. "Safrol" - pyrethrum - rotenone	<u>Megaselia</u> sp.	fsp: WFT	Used as aerosol (Beltsville, Md.)
236. salt (in baits)	<u>Feltia</u> spp.	lt: WFT	Conditioner (Phoenix, Ariz.)
237. soap	<u>Feltia</u> spp.	lt: WFT	Has some promise as bait conditioner in semi-arid regions (Phoenix, Ariz.)
	Cabbage caterpillars	fsp: WFT	Baton Rouge, La.
	do	fsp: WFT	Spray of 1 pound fish oil soap to 50 gals water applied weekly gave fair control but caused severe injury to plants (Charleston, S.C.)
238. sodium antimony lacto- phenolate ("SALP")	<u>Taeniothrips simplex</u>	fsp: VP	Equal to tartar emetic sprays at comparable antimony concentration. Prevents sooty molds with molasses sprays (Beltsville, Md.)
239. sodium arsenite (in baits)	<u>Feltia</u> spp.	lt: VP	Very effective in baits (Phoenix, Ariz.)
	<u>Scapteriscus</u> spp.	lt: NFT	Plant City, Fla.
240. sodium arsenite (dusts)	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
241. sodium arsenite - rotenone	do	lt, flp: NFT	Kills well but burns foliage (Moscow, Idaho)
242. sodium benzoate	<u>Taeniothrips simplex</u>	fsp: -	Reduces sooty molds in molasses (Beltsville, Md.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
243. sodium cyanide	<u>Scapteriscus</u> spp.	fsp: WFT	Plant City, Fla.
244. sodium dinitro ortho cresolate ("Elgetol")	<u>Bruchus pisorum</u>	lt: NFT	2 percent tested (Moscow, Idaho)
245. sodium dinitro ortho cresolate - cube	do	lt: NFT	0.25 percent cube - 1 percent "Elgetol" (Moscow, Idaho)
246. sodium dinitro ortho cresolate - pyrethrum	do	lt: NFT	Pyrocide 5 percent - "Elgetol" 1 percent
247. sodium fluoride (in baits)	<u>Feltia</u> spp. <u>Scapteriscus</u> spp.	lt: VP lt: WFT	Very effective in baits (Phoenix, Ariz.) Plant City, Fla.
248. sodium fluoride (dusts)	<u>Bruchus pisorum</u>	lt: NFT	Forest Grove, Oregon
249. sodium fluosilicate	<u>Bruchus pisorum</u> <u>Heliothis armigera</u> <u>Scapteriscus</u> spp. <u>Sitona lineata</u> Cabbage caterpillars	lt: NFT fsp: VP lt,fsp,flp: VP lt: WFT fsp: VP	Forest Grove, Oregon Columbus, Ohio Most satisfactory poison tested (Plant City, Fla.) Puyallup, Wash. 50-75 percent gave good to excellent control of all species. Caused slight but not permanent plant injury. Undiluted had poor dusting qualities and caused severe injury (Charleston, S. C.)
250. "Sorbitol" (hexa-hydroxyl alcohol)	<u>Taeniothrips simplex</u>	fsp: NFT	Sugar substitute. Poor results with tartar emetic. (Beltsville, Md.)
251. "Sprakast" (See castor bean plant leaves)			

Material	Name of Insect Used in Tests	Results (by code)	Remarks
252. steam	<u>Cotinis nitida</u>	fsp: VP	Oxford, N. C.
253. strontium fluoride	<u>Scapteriscus acletus</u>	lt: NFT	Plant City, Fla.
254. styrene dibromide	<u>Anthonomus eugeni</u> <u>Ephestia elutella</u> and <u>Lasioclerma serricornis</u>	fc: NFT lt: NFT	Poor dust physically (Alhambra, Calif.) Tested as aerosol with freon (Richmond, Va.)
255. sulfamic acid	<u>Limonius canus</u> and <u>L.</u> <u>californicus</u>	lt: NFT	Walla Walla, Wash.
256. sulfur	<u>Bruchus pisorum</u>	lt: WFT	30 percent kill at 80°F. with 20-50 pounds per acre and 50 percent with 100 pounds per acre. "Microsulfur" (Forest Grove, Oregon)
	<u>Eriophyes cladophthirus</u>	fsp: VP	Alhambra, Calif.
	<u>Corizus</u> sp.	fsp: VP-TNS	Satisfactory against nymphs (Phoenix, Ariz.)
	<u>Feltia</u> spp.	lt: TNS-WFT	In baits. Some stomach poison effect (Phoenix, Ariz.)
	<u>Lygus hesperus</u> and <u>L.</u> <u>oblineatus</u>	lt,fc,fsp: VP	Effective against nymphs only. Four applications during May gave good control on seed beets (Phoenix, Ariz.)
	<u>Paratrioza cockerelli</u>	fsp: VP-WFT	Used in some tests to determine the extent of damage by psyllids.
	Cabbage caterpillars	fsp: NFT	WFT as diluent (Baton Rouge, La.)
	do	fsp: NFT	Superior to Kaolin and tended to be so to talc and pyrophyllite as diluent for pyrethrum powder and cube powder. Seemed to reduce deterioration in stored cube powder (Charleston, S.C.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
257. sulfur (wettable)	<u>Tetranychus bimaculatus</u>	flp: NFT	Heavy deposit on foliage and fruit. (Beltsville, Md.)
258. sulfur-pyrethrum	<u>Epilachna varivestis</u> and <u>Thrips tabaci</u> <u>Macroductylus subspinosus</u> and <u>Nedonata puncticollis</u> <u>Lygus</u> spp. <u>Scapteriscus</u> spp. <u>Eutettix tenellus</u> Cabbage caterpillars dc	fsp: VP lt: WFT lt,fc,fsp,flp: VP fsp: TNS flp: VP fsp: VP fsp: WFT	Norfolk, Va. Beltsville, Md. Very effective for both nymphs and adults. Impregnated pyrethrum used 0.2 percent pyrethrins 50 percent sulfur (Phoenix, Ariz.) Doubtful (Plant City, Fla.) Micronized sulfur and pyrethrum gave better control than lime sulfur- pyrethrum (Twin Falls, Idaho) Baton Rouge, La. 20 percent sulfur increased effec- tiveness of 0.15 percent pyrethrins dust for loopers and imported cabbage worm.
259. sulfur-sodium fluosilicate	<u>Scapteriscus</u> spp.	lt: WFT	Plant City, Fla.
260. talc	Cabbage caterpillars	fsp: WFT	With dorris and pyrethrum (Baton Rouge, La.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
261. tartar emetic	<u>Protoparce</u> spp. do	flp: WFT fc: VP	Baits for adults (Florence, S.C.) Sweetened bait for adults (Clarks- ville, Tenn.)
	<u>Heliothis armigera</u>	fsp: NFT	Columbus, Ohio
	<u>Feltia</u> spp.	lt: VP-WFT	Phoenix, Ariz.
	<u>Taeniothrips simplex</u>	fsp: VP	Equally effective with corn syrup or molasses. Ineffective with "Sorbitol" or isoamyl salycilate. (Beltsville, Md.)
	<u>Heliothrips femoralis</u>	fsp: NFT	Greenhouse. Inferior to nicotine with corn syrup (Beltsville, Md.)
	<u>Sitona lineata</u>	lt: WFT	Extreme irritation but little or no kill. May be useful with other materials (Puyallup, Wash.)
262. 2,3,4,6 tetramethyl glucose	<u>Protoparce</u> spp.	fc: WFT	Sweetened bait for adults (Clarksville, Tenn.)
263. tetramethyl thiuran-disulphide	<u>Protoparce sexta</u>	fc: NFT	Quincy, Fla.
264. thiocyanacetate ("Thanite")	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
265. thionate	<u>Ephestia elutella</u> and <u>Lasioderma serricorne</u>	lt: WFT	Tested as aerosol with freon (Richmond, Va.)
266. thundergod vine root	<u>Bruchus pisorum</u>	lt: NFT	Moscow, Idaho
	<u>Epilachna varivestis</u>	fsp: WFT	Knapsack and power sprayers (Columbus, O.)
	<u>Heliothis armigera</u>	fsp: NFT	Columbus, Ohio
	<u>Leptinotarsa decemlineata</u>	fsp: WFT	Knapsack sprayers (Columbus, Ohio)
	<u>Anthonomus eugeni</u>	fc: WFT	Excellent dust physically (Alhambra, Calif.)
	<u>Taeniothrips simplex</u>	fsp: VP	Beltsville, Md.

Material	Name of Insect Used in Tests	Results (by code)	Remarks
267. timbo	<u>Epitrix cucumeris</u> and <u>E. suberinita</u>	flp: VP	0.75 percent rotenone. Effective but high and useful chiefly when applications of cryolite or calcium arsenate have been neglected.
268. tobacco dust	Cabbage caterpillars	fsp: WFT	Used with derris and pyrethrum (Baton Rouge, La.)
269. tomato extract (green, added to cryolite spray)	<u>Heliothis armigera</u>	lt: NFT-fsp: WFT	Conflicting results (Columbus, Ohio)
270. tomato extract (ripe, added to cryolite spray)	do	lt: NFT-fps: TNS	Columbus, Ohio
271. tomato extract (ripe and green added to cryolite spray)	do	lt, fsp: NFT	Columbus, Ohio
272. tricalcium arsenate-metaldehyde	<u>Scapteriscus acletus</u>	lt: NFT	Prepared slug bait (Plant City, Fla.)
273. turkey mullein (<u>Piscaria sitigera</u>)	<u>Protoparce</u> spp. <u>Bruchus pisorum</u>	fc: WFT lt: VP	In sweetened bait for adults (Clarksville, Tenn.) Moscow, Idaho
274. vapor heat	-	-	Tolerance observations on commercial narcissus stocks (Sumner, Wash.)
275. white oil emulsion	<u>Tetranychus bimaculatus</u>	flp: VP	Used with derris (Beltsville, Md.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
276. xanthone ("Genecide")	<u>Bruchus pisorum</u>	lt: WFT	0.25 percent cube. Not field tested (Moscow, Idaho)
	do	lt: NFT	Forest Grove, Oregon
	<u>Sitona lineata</u>	lt: NFT	Puyallup, Wash.
	<u>Epilachna varivestis</u>	fsp: WFT	Caused slight insecticidal injury. Not effective for corn earworm control. (Norfolk, Va.)
	<u>Taeniothrips simplex</u>	fsp: NFT	Used with brown sugar (Beltsville, Md)
	<u>Cabbage caterpillars</u>	fsp: NFT	Baton Rouge, La.
	do	fsp: NFT	25 percent in dust relatively ineffective against all species.
	<u>Lampetia equestris</u>	-	Forcing tolerance test of narcissus bulbs (Sumner, Wash.)
	<u>Epitrix cucumeris</u> and <u>E. subcrinita</u>	fsp: NFT	Caused foliage damage as dusts and sprays. No control of adults (Yakima, Wash.)
277. "Versicol 60-A"	<u>Ephestia elutella</u> and <u>Lasioderma serricorne</u>	lt: WFT	Tested as aerosol with freon (Richmond, Va.)
278. zinc arsenite	<u>Sitona lineata</u>	lt: VP	Puyallup, Wash.
279. zinc phosphide	<u>Scapteriscus acletus</u>	lt: VP	Plant City, Fla.
280. E-2 (phenazine). See Item 209			
281. E-22 (See Item 15)			
282. E-1181 (See Item 4)			

Material	Name of Insect Used in Tests	Results (by code)	Remarks
283. E-1288	<u>Scapteriscus acletus</u>	1t: NFT	Plant City, Fla.
284. E-1304	do	1t: NFT	do
285. E-1362	do	1t: NFT	do
286. E-1363	do	1t: NFT	do
287. E-1364	do	1t: NFT	do
288. E-1458 (See Item 113)			
289. E-1537 (See Item 86)			
290. E-2221 (See Item 84)			
291. E-2256	<u>Protoparce</u> spp.	1t: NFT	Oxford, N. C.
292. E-2375 (See Item 192)			
293. E-2376	<u>Limonius canus</u> and <u>L. californicus</u>	1t: NFT	Walla Walla, Wash.
294. E-2551	do	1t: NFT	do
295. C. I. - 518	<u>Scapteriscus acletus</u>	1t: NFT	Plant City, Fla.
296. C. I. - 519	do	1t: NFT	do
297. C. I. - 2296	do	1t: WFT	Appears to kill by fumigation (Plant City, Fla.)

Material	Name of Insect Used in Tests	Results (by code)	Remarks
298. C. I. - 2431	<u>Scapteriscus acletus</u>	1t: NFT	Plant City, Fla.
299. C. I. - 2702	do	1t: NFT	do
300. C. I. - 45	do	1t: NFT	do

